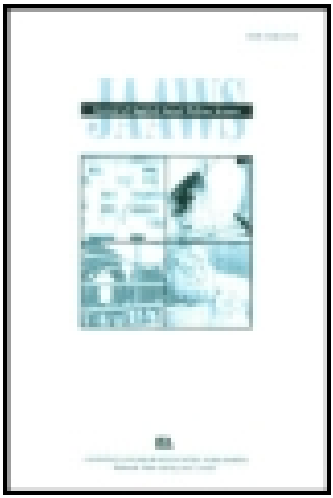

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The Effects of Implementing a Feral Cat Spay/Neuter Program in a Florida County Animal Control Service

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In 1995, a county animal control service implemented a feral cat sterilization program with the goal of reducing the number of healthy cats euthanized, complaints, and the county's costs. The service collected data from a 6-year period both before and after the program's implementation. The service totaled the numbers of both cat and dog impoundments, surgeries, adoptions, euthanasias, and complaints for each year; standardized both sets of numbers on a per- 10,000-person basis to compare trends between dogs and cats; and calculated estimated costs for neutering versus impounding and euthanizing the feral cats. Changing from a policy of euthanasia of feral cats to support for trap–neuter–return did not result in an increase in the number of complaints or cat impoundments. The percentage of impounded cats euthanized decreased between the periods before and after the program began, and the percentage adopted increased. The ratio of complaints to impounds decreased between the 2 periods, and the ratio of surgeries to impounds increased. Impoundments of cats were relatively steady in spite of the continually increasing human population. Euthanasias decreased for both cats and dogs since 1997. Since 1996, complaints decreased for both. Surgeries for both cats and dogs increased over the 12 years. Adoptions for cats and dogs increased greatly in fiscal year 1998/1999.

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Animal shelter and animal control agencies are faced daily with the problem of homeless animals other than humans. As a result, euthanasia has become the major cause of death for companion animals in the United States (Olson, Moulton, Nett, & Salman, 1991), resulting in the euthanasia of millions of dogs and cats each year (Arkow, 1994; Moulton, Wright, & Rindy, 1991; Rowan, 1992). Exact figures for the number euthanized annually are difficult to obtain, but estimates range from nearly 6 million to more than 18 million dogs and cats (Lord, Wittum, Neer, & Gordon, 1998). Estimates vary widely because of the lack of information on the number of shelters in the United States, the lack of accurate records, and poor response rates to surveys (Lord et al., 1998; Wenstrup & Dowidchuk, 1999).

As public awareness of the numbers of animals euthanized each year has grown, the past several decades have seen numerous programs implemented to reduce these rates through neutering, adoption, public education, and legislation (Arkow, 1991; Moulton et al., 1991; Rowan & Williams, 1987). Although the numbers of animals neutered and adopted through shelters often has increased as a result, healthy animals continue to be euthanized in large numbers. Concurrently, many view the situation as a people problem—the result of the human–animal bond failure—rather than as simply too many animals, thus making the killing of animals an unacceptable response. Consequently, as these perceptions have changed, alternatives to euthanasia of homeless animals, such as no-kill shelters that hold healthy animals until adopted, have developed (Slater, 2001a).

Control of feral cats is becoming one of the major issues of animal welfare (Slater, 2001a). One control method being advocated by many humane groups is the trap–neuter–return (TNR) management method, with the full implementation being trap–test–vaccinate–alter–return–monitor (TTVARM; Patronek, 1998; Slater, 2001a). This method neuters feral cats and returns them to their colony where caretakers feed and monitor them. It is advocated as a more effective means than euthanasia of controlling feral cat populations because the cats continue to occupy the environmental niche, thus making it less likely that new cats will immigrate to the colony (Mahlow & Slater, 1996; Universities Federation for Animal Welfare [UFAW], 1995). Often when eradication is attempted through trapping and euthanasia a few cats avoid capture and repopulate the area. If eradication is successful and food and shelter are not eliminated, new cats from surrounding areas will move in to fill the vacant niche (Mahlow & Slater, 1996; Slater, 2001b; UFAW, 1995). One study examining the stability of colony size over time in two Florida county parks found that colony size did not decrease over time and that, for one colony, it increased (Castillo, 2001). However, the author pointed to the illegal dumping of unwanted cats as the primary cause of the presence of new cats. He also attributed the lack of territorial behavior in part to the amount of food put out by volunteers and the large amounts of food that were left out during the day. In contrast, another study of a TNR program found that although the number of tame

cats increased, the total number of new cats found decreased in the second year of the program, as did the number of kittens (Hughes & Slater, 2002). In this program, attempts were made to limit the amount of food put out to avoid having any left over. In general, any method of control is dependent on controlling the dumping of unwanted cats and free-roaming pet cats.

Although the TNR method is being employed in many areas of the country, the data from these programs are largely anecdotal (Patronek, 1998). Some small studies examining this method have been published (Neville & Remfry, 1984; Zaunbrecher & Smith, 1993); however, because these programs and the results obtained remain controversial, a need remains for more information about them. To reduce reproduction and subsequent euthanasia of feral cats in its area, Florida's Orange County Animal Services agency implemented such a program (along with their other spay/neuter programs) in conjunction with a local volunteer group whose members act as caretakers.

As the result of a number of factors, the county implemented the feral cat sterilization program in 1995. A large percentage of impounded cats, many of whom were healthy, were euthanized each year. Cats often were picked up repeatedly from the same areas. Despite trapping and euthanasia of these colonies, as well as having leash laws for cats in the past, the numbers of cats being collected had not diminished. Citizens also had requested help from the county to keep their colonies rather than having them euthanized. Consequently, the county estimated the costs of impounding cats versus neutering them and found that neutering would be less costly as well as less labor intensive because impounded animals were held for 5 working days. Thus, the program was begun to decrease the number of healthy cats euthanized, decrease the costs to the county, and decrease complaints.

PURPOSE

The objectives of this study were to determine whether implementation of a feral cat spay/neuter program, added to other spay/neuter programs, resulted in the following: a decrease in total numbers of cats impounded, a decrease in total numbers of cats euthanized, a decrease in the total numbers of cat complaints received by the county, and a decease in costs to the county as compared to the estimated costs of impounding and euthanizing these animals.

METHOD

Study Site

Orange County comprises approximately 1,000 square miles in the center of Florida and consists of 13 municipalities plus rural areas (Orange County Government, Florida, 2001). The population reported by the 1990 census was

677,491 (Orange County Government, Florida, 2001), and the 2000 census reported a population of 896,344, an increase of 32% (United States Census Bureau, 2001). For the year 2000, the estimated number of companion cats in the county was 201,055. This estimate was derived using a formula used by the American Veterinary Medical Association (1997) for estimating pet populations in communities. The number of households in the county—336,286 (United States Census Bureau, 2001)—was multiplied by the percentage of cat-owning households in the United States (27.3%) and then by the average number of cats per household in the United States (2.19; American Veterinary Medical Association, 1997). The figures for the U.S. cat statistics were based on 1996 figures, the most recent data available. Similarly, an estimate for 1990 of 158,569 cats in the county was derived using 1987 U.S. cat statistics (American Veterinary Medical Association, 1997). The estimated number for 2000 represented an increase of approximately 27% in the companion cat population.

Within the county, there is a shelter operated by the Orange County Animal Services agency and a nonprofit shelter operated by the local Humane Society. The Orange County Animal Services agency has a history of promoting population control by offering low-cost spay/neuter services to the public, beginning with the opening of a low-cost spay/neuter clinic at its shelter in October 1988. From 1993 to 1995, a private and public partnership with local veterinarians was developed for implementing a low-cost spay/neuter program for sterilization surgeries performed in their practices. The veterinarians agreed to provide four free surgeries per month per veterinarian for persons who qualified for the program. They were not reimbursed for their costs. Approximately 60 veterinarians participated. After 2 years, they had performed only 1,600 surgeries, much less than expected; thus, the program was considered unsuccessful and discontinued. To serve the county's east side, the county—through a partnership with private enterprise—opened a second low-cost spay/neuter clinic in August 1997, followed by a mobile spay/neuter clinic in November 1998 to serve the west side of the county. The east-side clinic closed in May 2001 due to a poor cost–benefit ratio. Use of the mobile clinic began to increase and now it is used throughout the county.

Animal control officers brought in the majority of animals entering the shelter, followed by animals brought in as strays by the public. Officers brought in free-roaming animals and those involved in nuisance complaints and cruelty or neglect cases. Some caregivers surrendered animals because of aggressive behavior, but other surrendered animals, those judged more adoptable, were referred to the local Humane Society shelter. During the first 2 years of the study, the county transferred animals for adoption to the Humane Society. In fiscal year (FY) 1991/1992, the county began handling its own adoptions, but small numbers of animals continued to be transferred to the humane society for adoption afterward, often at the request of the animal's caregiver. Adopted animals were neutered and vaccinated before release to the new caregiver.

The Humane Society shelter reported that 8,000 dogs and cats entered the shelter in 2001 (Society for the Prevention of Cruelty to Animals of Central Florida, 2001). It currently serves a three-county area but receives 70% to 80% of its animals from Orange County (B. Wetzler, personal communication, January 9, 2002). Between 1990 and 2001, the total number of cats taken in ranged from 4,048 to 7,009, with a median of 4,738. Since 1993, the number has stayed between 4,000 and 5,000 each year (D. Humfleet, personal communication, January 25, 2002). Animals entered the Humane Society shelter primarily by caregiver surrender, as strays were not taken in after 1991 (B. Wetzler, personal communication, January 9, 2002). The caregiver must have cared for these animals for at least 30 days (B. Wetzler, personal communication, January 9, 2002). This shelter also operates a low-cost spay/neuter clinic; from 1993 to 2001, the number of cat surgeries overall tended to increase, with a median annual number of 2,850 performed (range = 306 to 3,860; D. Humfleet, personal communication, March 13, 2002). The number of surgeries reported for 1993 was for the month of December only, in which 306 cat surgeries were performed. This clinic neuters feral cats for TNR groups and has since its inception; although specific data were unavailable on the number of ferals handled, it was estimated that ferals comprised approximately 30% of the surgeries (D. Humfleet, personal communication, January 28, 2002). These ferals were thought to come from private citizens and were not brought in by caretakers associated with the volunteer organization working with the county (C. Graham, personal communication, February 26, 2002).

The Feral Cat Partnership

In December 1995, Orange County Animal Services implemented a feral cat sterilization program. Citizens with feral cat colonies contacted the volunteer organization to arrange to have the cats trapped. The caretakers trapped the cats and brought them to the county facility. During the first 6 months of the program, six surgery slots per day were scheduled for feral cats. Because these slots were not always filled, the schedule was changed such that feral cat surgeries were scheduled for Mondays, with two slots available on each day of the rest of the week for additional surgeries. Depending on time of year, the length of time caretakers had to wait to get a surgery appointment varied. During kitten season, appointments were made 5 weeks in advance, whereas at other times surgeries were usually scheduled within 1 week (C. Graham, personal communication, February 26, 2002).

Cats in the program were surgically neutered; vaccinated against rabies, rhinotracheitis, calicivirus, and panleukopenia; and ear-tipped to identify them as neutered. Cats who were suspected of being positive, such as those who appeared ill or high risk males, were tested for feline leukemia and feline immunodeficiency

virus infections. Cats testing positive for either disease were euthanized. The county contracted with local veterinarians to perform these procedures at the county facilities. Kittens estimated to be at least 7 weeks of age were neutered. All kittens were removed from the colonies, socialized, and, if possible, placed for adoption. Kittens were either socialized by the caretakers or through rescue groups (C. Graham, personal communication, February 26, 2002).

Cats were returned to the caretakers the same day. Typically, caretakers then held the cats overnight before returning them to their colonies. Caretakers monitored the colonies for new or ill cats. In some colonies, caretakers attempted to recapture the cats to update their rabies vaccinations.

Neutering of the cats was free, but citizens were charged $5 per cat for the rabies vaccination. The county code required cats to be licensed, which was free for neutered animals. Cats could be at large as long as there were no complaints from neighbors. If a colony became a nuisance, the county required the caretaker to relocate the colony. The volunteer organization educated citizens about feral cats and publicized the program by word of mouth and through the distribution of flyers by local rescue groups. The county also referred citizens to the organization.

Data Collection and Analysis

Data were collected on all cats processed by the Orange County Animal Services for the period between 1989 and 2001 as part of the county's ongoing data collection effort to determine the number and disposition of animals handled. Data for the period 1989 to 1999 were tabulated for a 10-year report. All data were tabulated on an FY basis from October to September. The number of impoundments, surgeries, adoptions, euthanasias, and complaints was tabulated for each year from FY 1989/1990 through FY 2000/2001.

The number of impoundments included all cats who entered the county shelter, regardless of mode of entry, and was equal to the number of adoptions, caregiver reclaims, euthanasias, deaths, and escapes. Feral cats neutered through the program were not included in this number as they were not impounded (did not enter the shelter). The number of surgeries was the combined total from all the county-run clinics for that time period and included adopted animals, feral cats, and those neutered through the spay/neuter clinics. The number of feral cats neutered was totaled for each year from FY 1995/1996 through FY 2000/2001. The number of adoptions included the cats transferred to the Humane Society for adoption. The number of complaints was the number of reports received for cats (did not reflect the number of cats impounded) and was the total of three categories: (a) loose (caregiver unknown), (b) nuisance (owned), and (c) captured.

Changes in the county code in the Fall of 1995 made complaints for cats with unknown caregivers reported as loose and as nuisance for owned cats. Prior to this

change, cats were not considered loose but as free-roaming animals, with action only being taken if they were a nuisance. A change in the way complaint reports were taken also occurred at this time. Previously, a report was taken each time someone called about a problem, even if the person had called just the day before. Following the change in procedure, the same report number was used for an ongoing problem until the situation was resolved, either through issuance of a citation or impoundment. In addition, in FY 1999/2000 and FY 2000/2001, the definition of a nuisance complaint was broadened, incorporating additional types of reports as constituting a nuisance. The number of impoundments, surgeries, adoptions, and euthanasias for dogs was tabulated as it was for cats. The number of complaints for dogs was totaled as well, although the categories included as complaints were not comparable to those for cats.

The median value for the 6 years of data in the pre- and postprogram period was used to represent the number of impounded, euthanized, and adopted cats. The proportion of impounded cats who were euthanized during the 6-year period prior to the program and the 6-year period after the program began was analyzed with chi-square. The odds ratio and 95% confidence intervals also were calculated using the median values. The percentage decrease in the number of cats euthanized during the 6 years since the program began was calculated by dividing the number euthanized in the sixth year of the program by the number euthanized in the program's first year, multiplying by 100 and subtracting the result from 100. The proportion of impounded cats who were adopted before and after the program was analyzed as for the proportion euthanized. The ratio of the number of cats neutered to the number impounded for each year before and each year after the program's implementation was analyzed by the Wilcoxon rank sum test. A similar analysis was used for both the ratio of cats neutered to the number of cats euthanized and the ratio of cat complaints to the number of cats impounded. The percentage decrease in the number of complaints received was calculated as for euthanasias.

For years in which a population estimate was available for the county (United States Census Bureau, 2000, 2001), the numbers of cats and dogs impounded, neutered, adopted, and euthanized—as well as the number of complaints received each year—were divided by the annual population and multiplied by 10,000 to compare the annual statistics between cats and dogs on a per-10,000-person basis. In an attempt to isolate the effects of implementing the feral cat program, cat statistics were compared to those for dogs to account for the effects of the opening of the other clinics.

Total budgetary expenses for the department, including capital improvements, operating costs, and personnel costs, were tabulated for each FY 1989/1990 through 1998/1999. Complete budgetary data were not available for FYs 1999/2000 and 2000/2001. The average cost per surgery was calculated by dividing the sum total of the clinic budget for these years by the total number of surgeries—dogs and cats—performed during this period at the shelter clinic. The

average total cost per impounded animal was calculated by dividing the combined field and shelter budgets for these years by the total number of animals impounded during the same period. Separate budgetary data for dogs and cats were not available. To estimate the cost of neutering the cats compared to the estimated costs if they had been impounded and euthanized, the average costs per surgery and per impounded animal were then multiplied by the number of feral cats neutered during the 6 years following the program's implementation.

RESULTS

During the period FY 1989/1990 through FY 2000/2001, the county neutered 37,182 cats. Of this total, 7,903 (21%) were feral cats neutered since December 1995. For both total cat surgeries and feral cat surgeries, the percentage of spays and castrations were 53% and 47%, respectively, for the period FY 1989/1990 through FY 1998/1999. The breakdown of spays and neuters was not available for FYs 1999/2000 and 2000/2001.

Table 1 presents the number of impoundments, surgeries, adoptions, euthanasias, and complaints for cats for each year. In the 6 years before the feral cat program was begun, 34,337 cats were impounded, whereas 34,313 cats were impounded during the 6 years following implementation of the program. The total percentage of impounded cats who were euthanized in the 6-year period before and the 6-year period after the start of the program was 86% and 81%, respectively. The decrease in the median proportion of euthanized impounded cats following implementation of the program (4,621:5,675) compared to the median proportion prior to the program (4,642:5,444) was statistically significant, $\chi^2(1, N = 11{,}119) = 29.48$, $p < .001$.

Comparing the two periods, impounded cats were significantly more likely to be euthanized than not euthanized in the period prior to the program (OR = 1.3; 95% CI: 1.2, 1.5). Across the 6 years since the feral cat program began, the number of cat euthanasias decreased 18% between FY 1995/1996 and FY 2000/2001. For the 6-year period prior to the program, 6% of the total number of impounded cats were adopted, whereas 12% were adopted during the 6-year period following the program's implementation. The increase after the program began in the median proportion adopted out of those impounded (547:5,675) compared to the median proportion before the program (327:5,444) was statistically significant, $\chi^2(1, N = 11{,}119) = 50.61$, $p < .001$. Impounded cats were less likely to be adopted than not adopted prior to the program's implementation (OR = 0.6; 95% CI: 0.5, 0.7).

The ratio of total cat surgeries relative to the number of impounded cats increased from 0.3 during the 6 years prior to the program to 0.8 during the 6 years after the program began. Similarly, the ratio of total cat surgeries relative to the number of euthanasias increased from 0.4 to 1.0. There was a significant differ-

TABLE 1
Summary of Cat Impoundments, Surgeries, Adoptions, Euthanasias, and Complaints in a Florida County Animal Control Service

	Fiscal Year											
	1989/1990	*1990/1991*	*1991/1992*	*1992/1993*	*1993/1994*	*1994/1995*	*1995/1996*[a]	*1996/1997*[b]	*1997/1998*	*1998/1999*[c]	*1999/2000*	*2000/2001*
Impounds	7,734	5,556	4,769	5,694	5,332	5,252	5,934	5,506	5,672	5,909	5,614	5,678
Surgeries	2,024	2,275	2,462	1,437	1,374	1,058	2,159	4,002	5,679	5,853	4,983	3,876
Feral surgeries							485	1,097	1,458	1,629	1,533	1,701
% of total surgeries							22	27	26	28	31	44
Surgeries: impounds	0.3	0.4	0.5	0.3	0.3	0.2	0.4	0.7	1.0	1.0	0.9	0.7
Adoptions	381	347	307	512	246	222	488	394	435	1,117	937	607
% of impounds	5	6	6	9	5	4	8	7	8	19	17	11
Euthanasias	6,916	4,738	4,024	4,458	4,642	4,642	5,229	4,889	4,969	4,192	4,353	4,294
% of impounds	89	85	84	78	87	88	88	89	88	71	78	76
Complaints	na[d]	3,683	3,024	3,764	3,111	3,011	3,319	3,139	3,048	3,110	3,078	2,481
Complaints: impounds		0.7	0.6	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.4

Note. From fiscal years 1989/1990 through 2000/2001.

[a]Feral cat neutering program implemented December 1995. [b]East-side low-cost spay/neuter clinic opened August 1997. [c]Mobile spay/neuter clinic started November 1998. [d]Complete data not available for this year.

ence between the time before and after the program when comparing each of the 6 years' ratios of surgeries to impounds for the two periods ($p = .01$). Similarly, the ratios of surgeries to euthanasias for each year before and each year after the program began were significantly different ($p = .01$). The ratios of complaints to impounded cats for each year before and each year after the program started were significantly different ($p = .008$), excluding FY 1989/1990 because complete data were not available for that year. Complaints decreased 25% over the 6 years since the program began.

The trends of impoundments, euthanasias, and complaints for cats and dogs are compared on a per-10,000-person basis in Figure 1. Complete data on complaints were not available for cats for FY 1989/1990 and for dogs for FYs 1989/1990 and 1990/1991. Impoundments of cats were relatively stable, whereas the number of dogs impounded decreased after FY 1996/1997. Euthanasias decreased for both cats and dogs, although more quickly for dogs, after FY 1996/1997. Complaints for both cats and dogs decreased after FY 1995/1996, but the rate of decrease was greater for dogs. Surgeries increased relative to the human population for both cats and dogs (Figure 2). Adoptions for both increased greatly in FY 1998/1999 (Figure 2), but the increase was greater for cats. Data on adoptions for dogs were not available for FY 1989/1990.

The average cost per surgery was $56. The average total cost per impounded animal for impounding, sheltering, and processing the complaint was $139. For the 7,903 feral cats neutered, the cost was an estimated $442,568. The estimated

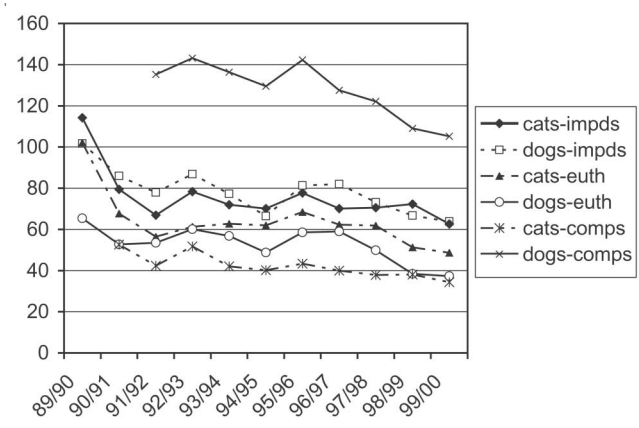

FIGURE 1 Trends in dog and cat impounds (impds), euthanasias (euth), and complaints (comps) per 10,000 persons in a Florida county animal control service (fiscal year [FY] 1989/1990 through FY 1999/2000). Complete data on complaints not available for cats for FY 1989/1990 and for dogs for FY 1989/1990 and 1990/1991.

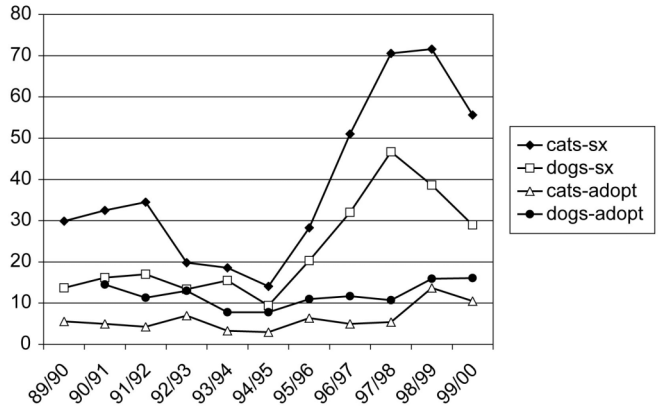

FIGURE 2 Trends in dog and cat surgeries (sx) and adoptions (adopt) per 10,000 persons in a Florida county animal control service (fiscal year [FY] 1989/1990 through 1999/2000). Data on adoptions for dogs not available for FY 1989/1990.

cost, if these cats were impounded and euthanized, was $1,098,517, a difference of $655,949.

DISCUSSION

Evaluating the effect of the implementation of the feral cat neutering program is challenging in the face of other changes within the agency and the area. Given that a number of other animal control programs and regulatory changes were implemented during the study period, separating out the effects of a single program may be impossible. Despite these constraints, examination of programs for overall trends in intakes and dispositions still should be undertaken. Data were not collected on how many adoptable versus nonadoptable cats were impounded, so it was not possible specifically to assess changes in outcomes for feral cats, only changes in overall cat outcomes. Since implementation of the TNR program, positive changes have occurred in most of the categories measured. Although these results cannot be attributed directly to the program, it can be stated that the implementation of sterilization of feral cats as part of a TNR program did not result in negative changes.

Although the number of impounded cats has not decreased, this may reflect in part a change in the county code in September 1995, in which a renewed emphasis was placed on enforcement. This could also result partially from the area's growth in population. The total number of cats taken in by the Humane Society's shelter has been relatively stable since 1993, suggesting that the stabilization of impoundments

by the county does not reflect simply a shifting of cats over to the other shelter. The large drop in impoundments, complaints, and euthanasias from FY 1989/1990 to 1991/1992 may be due to changes in the county code and operational procedures that occurred in 1987 and 1991. Operational procedures changed because actions became more complaint-driven with fewer independent actions by officers. The percentage of impounded cats euthanized has decreased between the periods before and after the program was begun, and there has been a decrease in the number of dogs and cats euthanized relative to the human population since 1997.

Since the implementation of the feral cat sterilization program, the number of cat surgeries performed by the county has nearly doubled. The reduction in surgeries for FY 2000/2001 may be due in part to the closure of the east-side clinic. Adoptions of cats have increased during the 6 years since the start of the feral cat program. The large number of adoptions occurring in FY 1998/1999 was the result of efforts by the county to place more emphasis on adoptions.

Complaints have decreased gradually, and only rarely has it been necessary to move colonies. A number of changes have occurred in how complaints are reported. It was not possible to examine changes in complaint numbers between known owned and unowned free-roaming cats over time because of the changes in the definitions of nuisance and loose cats that occurred with the code changes in 1995. It would be expected that the procedural change that occurred at this time in how complaint reports were assigned a number would have resulted in a decrease in complaints, but no dramatic changes are seen at that time. Since that time, the data are comparable with regard to procedure. In addition, despite the change broadening the definition of a nuisance complaint in the last 2 years, complaints decreased in FY 2000/2001. There were no changes in procedure or code to account for this decrease. All these results were obtained at an estimated cost of several hundred thousand dollars less than the estimated costs for impounding and euthanizing the feral cats.

During the period between 1990 and 2000, the human population of Orange County grew 32%, and the estimated owned cat population increased by 27%. Despite this increase, which could contribute to the number of unwanted cats, the county, with the advent of the feral cat sterilization program along with its other programs, was able to keep the number of cat impoundments stable while also decreasing the percentage euthanized and reducing complaints. Although it is not possible to attribute these results solely to the implementation of the feral cat program because figures for dogs also have improved during this time, it is important to note that the program did not have a negative impact. Thus, these results suggest the importance and feasibility of feral cat management as a component of a community's overall program to address its animal control and welfare problems.

The feral cat program has benefitted the community in less tangible ways. Overall response has been favorable, and the program has increased the morale of those involved (C. Graham, personal communication, April 8, 2001). Through

community involvement, the program allows the county's animal services employees and citizens concerned about the cats' welfare to view each other with a new perspective and understanding rather than as adversaries. This understanding is important, as most feral cat caretakers are motivated by concern for the cats' welfare and opt for TNR programs over animal control agencies as a way of reducing the populations of feral cats without euthanizing them (Centonze & Levy, 2002). Citizens who previously felt overwhelmed by the dilemma of feral cats they saw in their neighborhoods now feel empowered and able to make a difference in these cats' lives (C. Graham, personal communication, April 8, 2001). To build on the success of the program, more education of the community and an expanded mediation role for the volunteer organization would be required to continue to resolve problems in a humane manner; in addition, more surgical facilities are needed as the program currently fills all the available surgery appointments (C. Graham, personal communication, April 8, 2001).

The establishment of the feral cat program was done without a change in the county code through the persistence and teamwork of concerned citizens and county officials. Thus, the Orange County program is a testament to the ability of communities to effectively approach their companion animal overpopulation problems through a collaborative effort among the citizens, government, and volunteer organizations to promote increased animal welfare.

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